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für Montage- und  
Prüfsysteme mbH

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Welding apparatus

**Field of the invention**

10 The invention relates to a welding apparatus with two  
electrode carriers which can be moved relative to one  
another by a drive unit, can be mounted with electrodes  
and together with the drive unit form an assembly  
mounted in a floating position on at least one linear  
15 guide (1).

**Prior art**

EP 1 330 329 B1 has disclosed a welding apparatus of  
20 the above type, in which a substantially C-shaped  
electrode carrier carries the drive unit formed by a  
pneumatic cylinder and its piston rod and is provided  
with a guide for the second electrode carrier, which,  
like the first electrode carrier, is additionally  
25 guided on a linear guide for the two electrode  
carriers. The structure of the known design is  
relatively complicated, not least on account of the  
double guidance of one of the two electrode carriers.  
An additional factor is that on account of the drive  
30 unit used, the first electrode carrier, which guides  
the second electrode carrier, has to be provided with  
an extension arm, which produces its C shape and  
engages behind the second electrode carrier, for the  
drive unit.

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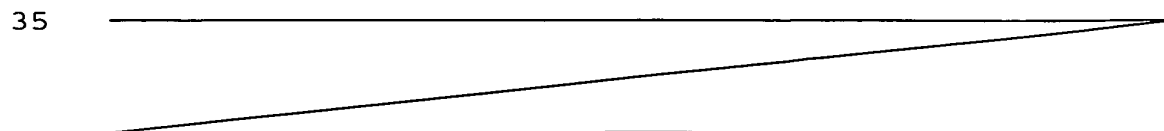
Also known, specifically from DE 101 44 731 A1, is a welding apparatus, the electrode carriers of which execute a tong-like movement, the initiation of which requires two spindles driven by an electric motor, which engage on those ends of the electrode carriers which are remote from the electrodes and are exposed to bending and compressive stresses during the welding operation. The fact that the electrodes move on a circular path and consequently there is no guarantee of the contact surfaces between the metal sheets and the electrodes remaining constant, for example when welding metal sheets of different thicknesses, has proven to be a drawback of this second design.

#### Summary of the invention

The invention is based on the object of providing a welding apparatus of the type under consideration, in which the electrode carriers are transferred by electric motor means from a base position into the welding position. This object is achieved by the features of patent claim 1.

The welding apparatus according to the invention offers the advantage that the electrodes can be moved linearly into a symmetrical position with respect to the weld metal by being selectively driven out of their starting position without the need to accept a complicated structure of the electrode carriers.

Further features and details of the invention will emerge from the subclaims and the following description of the embodiment of the invention which is illustrated in the accompanying diagrammatic drawings.



AMENDED SHEET